

DEPARTMENT MN POLLUTION CONTROL AGENCY

Office Memorandum

TO : Gordon W. Meyer, Chief
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SUBJECT: IMPLICATIONS OF THE NOVEMBER, 1981 HICKOK REPORT

The purpose of this memo is to bring into focus some key implications of the November, 1981 Hickok and Associates report and to provide a foundation for planning for the implementation of some of its recommendations. The Hickok report recommends that a gradient control well network be constructed in St. Louis Park to protect downgradient ground water. The report also recommends as an interim measure the capping of the peat deposit south of the site with low permeable material. The soil recommendations will not be addressed in this memo. There are several concerns regarding the gradient control well network that need to be addressed by decision makers at the Minnesota Pollution Control Agency (MPCA). The concerns are briefly as follows:

1) Capital costs of the gradient control network. The Hickok report proposes three equally effective alternative gradient control networks. Option A and B contain water treatment for potable use, and include the disposal of some water to the Metropolitan Waste Control Commission. These options have capital costs of \$5,082,000 and \$5,680,000 and yearly operational and sewer service costs of \$1,481,500 and \$771,000 respectively. Option C discharges all water with no pretreatment to the Mississippi River. Option C has a capital cost of \$4,600,000 and a yearly operational cost of \$259,000.

If these options were submitted in their present form to the Environmental Protection Agency (EPA) Office of Superfund, the EPA could be anticipated to select option C for funding since it has the lowest capital cost. The City of St. Louis Park (City) would likely prefer option B, since it would provide 2,200 gpm of potable water. Option A provides the same volume of potable water, but at an operating cost greater than option B.

The 2,200 gpm of treated potable water would provide 28% of peak water use in July and 78% of low water use in January.

reviewed 12/30/81
J.P.

If the City wanted the EPA to fund option B they would likely have to provide the difference in capital cost between options B and C. Under the present cost estimates this would amount to approximately \$600,000.

2) Operational costs and the sewer service charge for the gradient control network. The operating costs of the gradient control network will likely not be funded by the Superfund program. The annual operating costs of options A, B, and C are \$1,481,500, \$771,000, and \$259,000.

The City may be willing to pay for operating costs in options A and B necessary for providing potable water. They will likely choose not to pay for costs that do not result in potable water. For options A and B this would be a cost in excess of \$200,000 per year. For option C this would be approximately \$259,000 per year.

3) Potable water criteria. The Minnesota Department of Health (MDH) recommends water quality criteria of 2.8 ng/l for individual carcinogenic polynuclear aromatic hydrocarbons (PAH) and 28 ng/l for non-carcinogenic PAH compounds. This criteria is based on a health risk of one additional cancer in a population of 1,000,000 after 70 years of ingestion (a health risk of 10^{-6}). Water treatment to the proposed level may not be technically possible, and if it is, it will likely be extremely costly. The potable water treatment costs contained in the Hickok report may have been significantly underestimated. Therefore, it is essential that the state be very confident in the potable water criteria before asking the EPA, the City and the State Legislature to expend money for water treatment and protection to this level.

4) MDH well closure policy. The MDH has practiced a policy of not returning municipal wells to service after closure due to contamination by toxic chemicals. The MDH must determine whether the implementation of effective water treatment is an acceptable basis for returning a contaminated well to service.

5) Upcoming NPDES permit. Options B and C for the gradient control network include a direct untreated discharge to the Mississippi River. Two criteria for receiving water quality were proposed in the Hickok report. The criteria are 31.1 ng/l and 311 ng/l of total PAH with corresponding health risks of 10^{-6} and 10^{-5} . Pretreatment may be required if the NPDES permit is issued with the more conservative of the two criteria.

Due to the cost of pretreatment, the issuance of the NPDES permit will have a significant effect on the capital and operating costs of the gradient control network.

6) Water appropriation. Water appropriation permits will be needed for some of the wells in the gradient control network, and for any additional municipal water supply wells. The Department of Natural Resources (DNR) issues these permits and has expressed concern regarding drawing too heavily from the Hinckley Formation. Therefore, ~~it is important that the DNR be included in selecting the gradient control and potable water supply options.~~

The MPCA should ascertain what capital and operating costs the City is willing to assume. The MPCA can then plan for the anticipated costs and inform the legislature of the expenses that may have to be funded by the state. Since the St. Louis Park council approves the municipal budget, the MPCA should meet with the council to discuss the Superfund, and remedial action and water treatment costs.

Subsequent meetings with the St. Louis Park council or representative could be held periodically to discuss the status of the remedial action and Superfund Law.

Much of the engineering design work is based on MDH potable water quality criteria for PAH compounds, and on the yet to be obtained NPDES permit. The MPCA should meet with the MDH to discuss the solidity of the potable water criteria, and the acceptability of water treatment of a contaminated well for potable purposes. In addition, the MPCA should be prepared for the upcoming NPDES permit application by assessing the proposed receiving water criteria.

Recently the St. Louis Park Working Group Committee meetings have been attended by a reporter from the Minneapolis Star. During this period the meetings have been less than candid, and have not been a proper forum for discussing critical issues. These meetings appear not to be suitable mechanism for guiding and addressing the sensitive issues facing remedial action at the Reilly Tar hazardous waste site.

The MPCA should meet with the St. Louis Park City Council, MDH and DNR to discuss some of the concerns stated in this memo. These meetings could set the stage for a smooth development and implementation of remedial action for the Reilly Tar hazardous waste site, and the development of a cost effective water supply for St. Louis Park.

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